

CHAPTER 1 PURPOSE AND NEED

1.1 INTRODUCTION

The Federal Highway Administration (FHWA), in cooperation with the Colorado Department of Transportation (CDOT), has initiated preparation of an Environmental Impact Statement (EIS) to identify and evaluate multi-modal transportation improvements along approximately 61 miles of the I-25 corridor from the Fort Collins-Wellington area to Denver. The improvements being considered in this Final EIS will address regional and inter-regional movement of people, goods, and services in the I-25 corridor. The Draft EIS was issued in October 2008.

What's In Chapter 1?

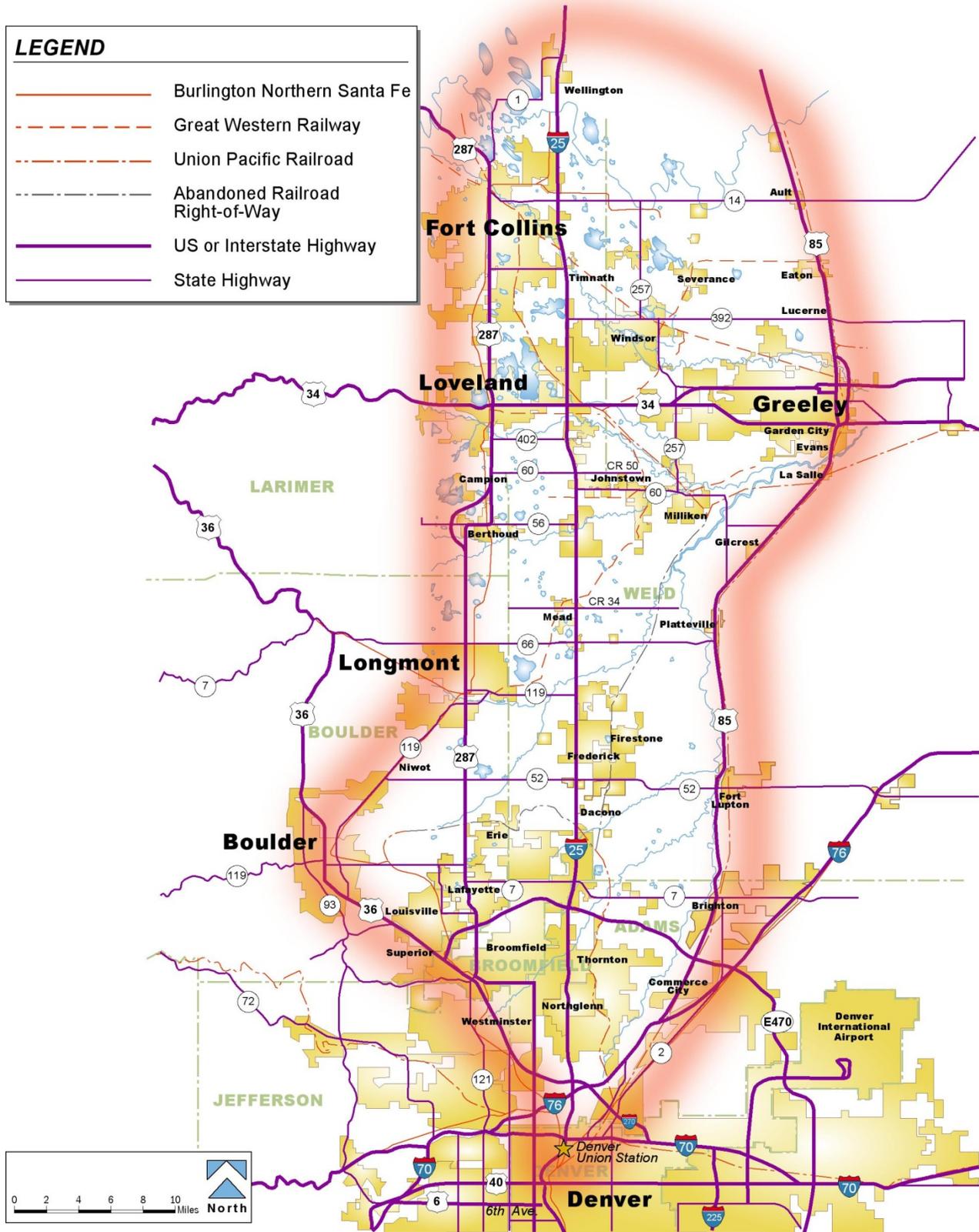
Chapter 1 - Purpose and Need

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1.2 PROJECT LOCATION

The regional study area extends from Wellington at the north end to Denver Union Station on the south, and from US 287 and the Burlington Northern and Santa Fe (BNSF) Railway routes on the west to US 85 and the Union Pacific Railroad (UPRR) routes on the east. The regional study area, depicted in **Figure 1-1**, spans portions of seven counties: Adams, Boulder, Broomfield, Denver, Jefferson, Larimer, and Weld. The regional study area includes 38 incorporated communities and three transportation planning regions (TPRs): the Denver Regional Council of Governments (DRCOG), the North Front Range Metropolitan Planning Organization (NFRMPO), and the Upper Front Range Regional Planning Commission (UFRRPC). Major population centers in the regional study area include Fort Collins, Greeley, Loveland, and the communities in the northern portion of the Denver metropolitan area (Denver Metro Area).

1 Figure 1-1 North I-25 EIS Regional Study Area
2



1.3 BACKGROUND AND PROJECT HISTORY

This northern Colorado corridor has become the focus of a substantial portion of statewide growth over the years, with I-25 serving as the primary north-south spine of the transportation system. These growth pressures have resulted in considerable increases in travel demand to the corridor, including both travel between northern Colorado and the Denver Metro Area and travel between communities in northern Colorado. At the same time, this corridor is a major link in the nationwide interstate highway system serving long distance travel, and is a critical element of the Western Transportation Trade Network (WTTN). The WTTN is a system of highway and rail routes through 14 western states; it carries the majority of freight through the western United States. As traffic volumes and safety concerns have increased on I-25 and connecting roadways, awareness of the need to plan for transportation improvements in this corridor has grown.

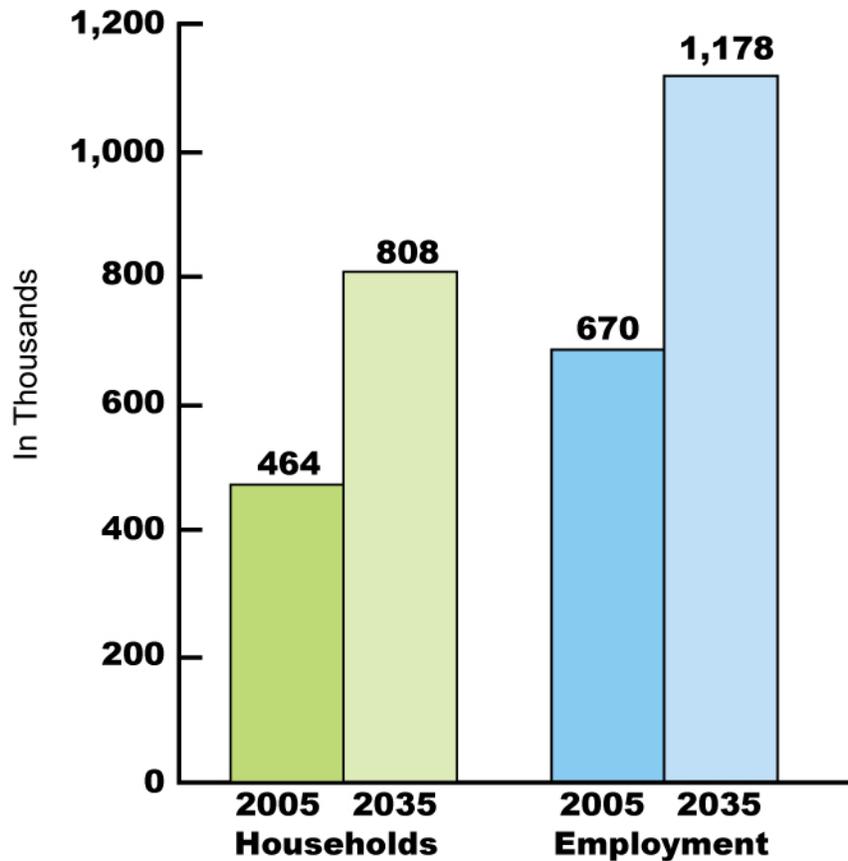
Illustrating the growth in the North I-25 corridor, **Figure 1-2** compares year 2005 households and employment to projected year 2035 future households and employment in the regional study area. Projections show an increase of 74 percent in households, while projections for employment show a corresponding increase of 76 percent over the year 2005 levels. This growth will result in increases in travel demand throughout the regional study area.

Providing transportation systems that operate safely, efficiently, and allow travelers to conveniently access shopping, recreational activities, work, and community services, as well as providing for efficient movement of freight, are important to maintain an economically viable region.

In 1993, CDOT initiated a feasibility study, with a subsequent 1995 Environmental Assessment (EA) and Finding of No Significant Impact (FONSI), for improvements to enhance the capacity and safety of I-25 between State Highway (SH) 7 and SH 66. This supported the decision making process for improvements on I-25, which have recently been completed (between SH 7 and SH 66). Subsequently, CDOT, in conjunction with regional planning groups (North Front Range Transportation and Air Quality Planning Council, UFRRPC, and DRCOG), undertook a major investment study called the *North Front Range Transportation Alternatives Feasibility Study* (TAFS), to evaluate an extensive range of alternative highway improvements, bus transit alternatives, passenger-rail alternatives, and travel demand management programs for the corridor from SH 7 to SH 14. This study, published in March 2000, recommended a Vision Plan that included, as major components, an inter-regional bus service, combination general purpose/high occupancy vehicle (HOV) lanes, and passenger rail service.

In more recent years, a number of studies have been conducted by communities or groups of communities to establish planning guidelines for growth in segments of this corridor. These plans have addressed both land use and transportation issues. The initiation of this North I-25 EIS represents the next step in evaluating and planning for implementation of improvements in this corridor.

1 **Figure 1-2** Year 2005 and 2035 Households and Employment in the Regional Study
2 **Area**



3 *Source: NFRMPO and DRCOG 2035 RTP data.*

4 **1.4 PROJECT PURPOSE**

5 The purpose of the project is to meet long-term travel needs between the Denver Metro Area
6 and the rapidly growing population centers along the I-25 corridor north to the Fort Collins-
7 Wellington area. To meet long-term travel needs, the project must improve safety, mobility and
8 accessibility, and provide modal alternatives and interrelationships.

9 **1.5 NEED FOR THE ACTION**

10 The need for the project can be summarized in the following four categories:

- 11 ▶ Increased frequency and severity of crashes
- 12 ▶ Increasing traffic congestion leading to mobility and accessibility problems
- 13 ▶ Aging and functionally obsolete infrastructure
- 14 ▶ Lack of modal alternatives

1 The project needs relate differently to highway and transit components of the solutions.
2 Highway alternatives were evaluated in addressing all four of these needs. Transit alternatives
3 were evaluated in addressing two of the needs: increasing traffic congestion leading to mobility
4 and accessibility problems, and lack of modal alternatives.

5 Specific measures were developed for each of the needs in order to provide a means for
6 evaluating the effectiveness of each alternative. These measures and results of the evaluation
7 are included in **Chapter 2 Alternatives**.

8 **1.5.1 Highway Safety Concerns**

9 Over the last decade, the number of crashes along I-25 has increased, and a number of
10 locations on I-25 currently experience worse than expected safety performance when
11 compared to other four-lane and six-lane interstate facilities in Colorado with similar traffic
12 volumes. This, in part, can be attributed to congestion and the fact that portions of I-25 do not
13 meet current design standards.

14 There is a need to reduce crashes on the portions of I-25 that have worse than average safety
15 performance, as described in **Section 1.5.1.1**.

16 **1.5.1.3 CRASH DATA**

17 In 1991, 331 crashes were reported along I-25 between SH 7 and Wellington. By 2001, this
18 number had more than tripled to 1,130 crashes. The largest increases in the number of
19 crashes occurred on I-25 between SH 7 and SH 52 (the section improved in 2005) and
20 between SH 66 and SH 56. In 1991, injury and/or fatal crashes accounted for 144 of the
21 reported crashes along I-25 between SH 7 and Wellington. By 2001, the number of injury
22 and/or fatal crashes had increased to 351.

23 Level of service of safety (LOSS) is a qualitative measure that characterizes safety of a
24 roadway segment in reference to its expected performance (Kononov and Allery, 2004).
25 Locations that are considered to be LOSS I and LOSS II operate more safely than other
26 facilities of a similar size and with similar traffic volumes throughout the state. Locations
27 identified as LOSS III and LOSS IV represent sections with a less than average safety
28 performance when compared to similar facilities statewide. Sections of I-25 that fall into the
29 LOSS IV category are considered to have a “high potential for crash reduction,” and were
30 reviewed in more detail.

31 As shown in **Table 1-1**, six locations in the regional study area along I-25 are considered to
32 have a high potential for crash reduction, and over half operate worse than other comparable
33 facilities. When injury and fatality crashes are separated from crashes resulting only in
34 property damage, I-25 between SH 14 and Mountain Vista Road also falls into the high
35 potential for crash reduction category.

36

1 **Table 1-1 I-25 Level of Service of Safety**

Location on I-25	LOSS I Low potential for crash reduction	LOSS II Better than expected safety performance	LOSS III Less than expected safety performance	LOSS IV High potential for crash reduction
US 36 – 84th Ave.		•		
84th Ave. – Thornton Pkwy		•		
Thornton Pkwy – 112th Ave.		•		
112th Ave. – 136th Ave.		•		
136th Ave. – SH 7			•	
SH 7 – County Road (CR) 8				•
CR 8 – SH 52				•
SH 52 – SH 119				•
SH 119 – SH 66			•	
SH 66 – CR 34			•	
CR 34 – SH 56				•
SH 56 – SH 60				•
SH 60 – SH 402			•	
SH 402 – US 34			•	
US 34 – Crossroads				•
Crossroads – SH 392		•		
SH 392 – Harmony		•		
Harmony – Prospect			•	
Prospect – SH 14			•	
SH 14 – Mtn. Vista			•	
Mtn. Vista – SH 1			•	



Average Safety Performance

 Portion of I-25 recently reconstructed and widened to six lanes.

Note: A median barrier to reduce the potential for crossover, head-on crashes was installed from SH 7 to US 34 in 2004 since these crash data were recorded.

Source: CDOT crash records, January 2000 – December 2002. This is the most recent data set available prior to reconstruction of sections of I-25.

CDOT Safety Performance Functions Intersection Diagnostics, April 2004 (CDOT, 2004a).

2 **Table 1-2** lists the locations identified as having high potential for crash reduction and
 3 identifies the types of crashes that are higher than what is anticipated. As shown, a preliminary
 4 assessment indicates that a number of the locations exceed the anticipated number of rear-
 5 end crashes, crashes involving the guardrail, and crashes involving other objects.

6 On many facilities, rear-end crashes are a result of congestion, while crashes involving other
 7 objects are a result of debris, or other objects in the travel way. A more thorough diagnostic
 8 analysis was conducted to identify the cause of crashes and to then recommend mitigation
 9 measures. The safety analysis included the following:

- 1 ▶ Review CDOT database of crashes compiled through Highway Patrol reports
- 2 ▶ Perform statistical analysis in areas with a high-crash concentration to identify any
- 3 abnormal crash patterns (i.e., identify trends)
- 4 ▶ Review accident reports to obtain additional information on the accident experience
- 5 ▶ Identify possible causes for areas of high-accident concentration/above-normal accident
- 6 experience, focusing on statistically problematic accident types
- 7 ▶ Identify possible roadway improvement options to help minimize specific accident
- 8 types/improve overall accident experience

9 The recommendations for mitigation measures were folded into the alternatives described in
10 **Chapter 2** of this EIS.

11 It is anticipated that safety will improve between SH 7 and SH 52, where I-25 was recently
12 widened to six lanes and updated to current design standards. Rear-end crashes and crashes
13 involving the guardrail will likely be reduced as a result of this improvement. In addition, a
14 median barrier was installed in 2004 between SH 7 and US 34, reducing the potential for
15 crossover head-on crashes.

16 **Table 1-2 Preliminary Assessment of Locations on North I-25 with High Potential for**
17 **Crash Reduction by Crash Type**

Location	Rear-end	Sideswipe same direction	Guardrail	Involving other object	Head-on*	Other non-collision**
SH 7 – CR 8	√		√		√	√
CR 8 – SH 52	√			√		
SH 52 – SH 119	√		√	√		√
CR 34 – SH 56	√		√	√		√
SH 56 – SH 60	√	√	√	√		
US 34 – Crossroads			√	√		√
SH 14 – Mtn. Vista	√			√	√	

√ = Types of crashes that exceed the number anticipated.

* A median barrier, reducing the potential for crossover head-on crashes, was installed from SH 7 to US 34 in 2004 since these crash data were recorded.

** These include incidents creating a hazardous road condition but that did not involve a crash (e.g., losing cargo on road, losing wheel, engine or brake fire, or broken down or stopped vehicle in travel lane).

Source: CDOT crash records, January 2000 – December 2002. This is the most recent data set available prior to reconstruction of sections of I-25.

CDOT Safety Performance Functions Intersection Diagnostics, April 2004 (CDOT, 2004a).

18 **1.5.1.4 I-25 ROADWAY DEFICIENCIES**

19 Roadway characteristics were evaluated along I-25, and comparisons were made to the
20 current American Association of State Highway and Transportation Officials (AASHTO, 2004)
21 and CDOT (CDOT, 2006) standards. This assessment included shoulder widths, stopping
22 sight distance, horizontal alignment, and vertical alignment. The existing 10-foot outside
23 shoulder width is substandard along the entire I-25 corridor from SH 66 to SH 1. Current
24 standards require a 12-foot outside shoulder width, which is important to provide continuous,

1 safe refuge for stopped vehicles and emergency use. The stopping sight distance is deficient
2 at numerous locations between SH 66 and SH 1 based on a design speed of 80 miles per hour
3 (mph). I-25 has a maximum posted speed limit of 75 mph and a design speed of 5-10 mph in
4 excess of the maximum posted speed limit, which is a standard design practice. Deficiencies
5 in the horizontal alignment include curves that are too sharp and inadequate transitions
6 coming into or out of curves. Horizontal deficiencies in the I-25 corridor exist between Weld
7 County Road (WCR) 34 and Larimer County Road (LCR) 26 and between SH 392 and
8 Harmony Road.

9 In 2005, I-25 between SH 7 and SH 52 was improved and widened to six lanes. In 2009, I-25
10 between SH 52 and SH 66 was improved and widened to six lanes. Design deficiencies on
11 I-25 between SH 7 and SH 66 were corrected with these improvements.

12 **1.5.2 Highway and Transit Mobility and Accessibility**

13 Population and employment growth are causing increasing traffic congestion, limiting mobility
14 and accessibility within the regional study area. This situation is expected to continue to
15 worsen, and there is a need for transportation improvements to address year 2035
16 transportation demand, which balances mobility and accessibility along the I-25 corridor. There
17 is also a need to plan transportation improvements in such a manner as to not preclude
18 improvements which may be needed after year 2035.

19 Within the regional study area, residential and commercial growth is occurring at a very high
20 rate, which contributes to, and will continue to contribute to, increasing traffic volumes. Despite
21 the fact that a large portion of the regional study area remains in agricultural use, new
22 development is springing up at a rapid pace. Forecasts indicate that households and
23 employment in the study area are expected to increase by about 75 percent from year 2005
24 levels by the year 2035. This indicates that the high rate of growth is expected to continue over
25 an extended period of time.

26 Development is occurring or being planned for without the benefit of a coordinated, overall
27 long-term strategy. Land use and development patterns in the I-25 corridor are evolving on a
28 daily basis. A significant number of new commercial developments have been recently
29 developed or are planned, including a 700,000-square-foot regional mall (Centerra), a new
30 regional hospital, and other regional retail and employment centers. In addition, south of the
31 SH 7/E-470 area, there are a number of recently completed or planned major developments
32 located along the I-25 corridor in Broomfield, Thornton, Westminster, and unincorporated
33 areas. At this time, there are no common development standards in place to ensure right-of-
34 way preservation to accommodate future transportation needs along the I-25 corridor.

35 Without improvements, by year 2035, about 85 percent of I-25 is projected to be congested
36 and to operate over capacity during the peak periods of travel. **Figure 1-3** illustrates year 2002
37 and 2035 daily traffic volumes along I-25. As shown, in year 2035 the daily demand along I-25
38 is expected to exceed capacity everywhere except the very northern segment. In addition,
39 congestion on the arterial network that connects the residential and employment centers in
40 northern Colorado to I-25 is expected to substantially increase by year 2035. This situation is
41 illustrated on **Figure 1-3**. In the year 2035 (the second illustration), the top red line shows
42 demand on I-25 while the pink bands below this show the capacity on I-25. The differential
43 between demand and capacity would typically show up as congestion on I-25 and on the
44 adjacent arterial roadways.

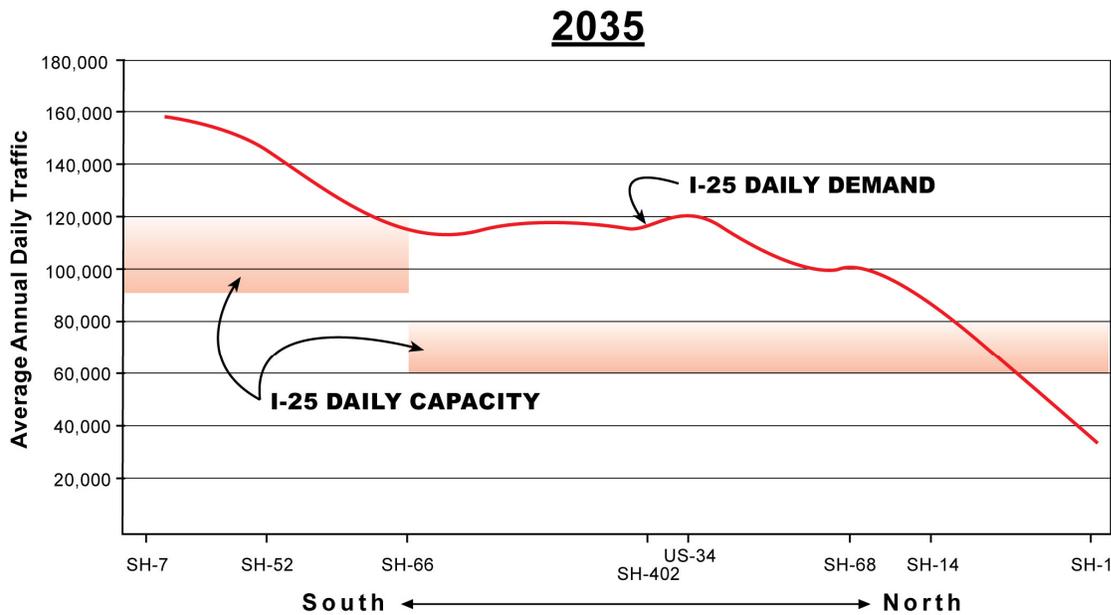
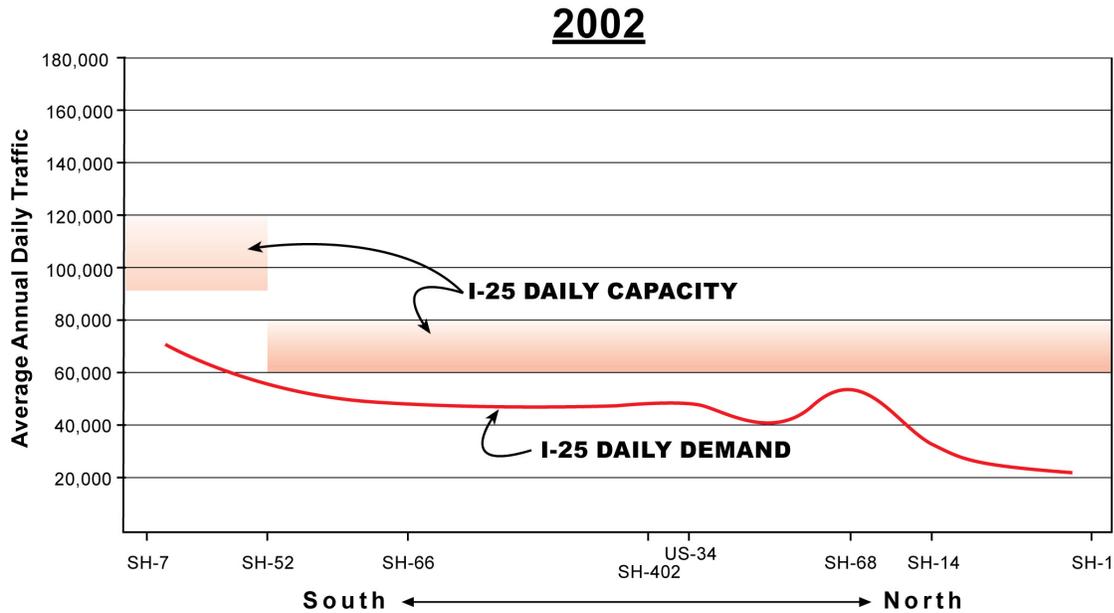
1 With regard to highway accessibility, many of the interchanges along I-25 were built before
2 1966, when travel demand was much lower. Approximately 60 percent of the interchanges
3 between SH 7 and SH 1 are currently considered functionally obsolete. These interchanges
4 were designed to operate in a rural, low-volume environment, and do not have the capacity to
5 safely or efficiently accommodate the higher traffic volumes that they are currently
6 experiencing. The configuration of these interchanges impedes accessibility to and from I-25
7 and restricts capacity east and west between the northern Colorado communities.

8 Regarding freight movement, commodity flow projections made in the Eastern Colorado
9 Mobility Study (Felsburg, Holt & Ullevig [FHU], 2002a) indicate that freight tonnage in and out
10 of Adams, Denver, Larimer, and Weld counties is expected to increase from 96.2 million tons
11 in 1998 to 192.3 million tons in 2025. This reflects more than a doubling of commodity
12 movement to/from these four counties alone. Truck volume projections indicate that volumes
13 could increase from approximately 8,000 trucks daily in 2004 to 19,000 trucks daily in year
14 2035.

15 The anticipated congestion will create slower travel speeds and longer travel times for both
16 freight and personal travel. AM peak hour southbound travel time between SH 1 and
17 20th Street (Denver) is expected to double compared to the existing travel time (20th Street in
18 Denver is one of the major I-25 interchanges that provide access to and from downtown
19 Denver). Between SH 1 and 20th Street, the average peak hour speed in 2035 is expected to
20 be less than 30 mph compared to the current average speed of 60 mph. Posted speeds on
21 I-25 are 75 mph north of 136th Avenue, 65 mph north of 120th Avenue, and 55 mph from
22 120th Avenue through downtown Denver.

23

1 **Figure 1-3 Current and Future Daily Traffic Volumes and Capacities**



2
3 **1.5.3 Aging and Obsolete Highway Infrastructure**

4 A number of structures along I-25 are currently structurally deficient or are expected to be so
5 by year 2035. Structurally deficient means that one or more components of the bridge rate
6 poor or worse with regard to structural condition. Segments of pavement on I-25 are reaching
7 the end of the pavement's life expectancy and surface conditions are deteriorating rapidly.
8 Aging infrastructure along I-25 needs to be replaced.

1.5.3.3 STRUCTURES

Seventy-three percent of the structures on I-25 between SH 7 and SH 1 were constructed before 1966, according to CDOT’s publication, *Field Log of Structures* (CDOT, 2005a). By the year 2035, it is anticipated that all of these structures will need to be replaced or rehabilitated. Also, the structures located from SH 52 to SH 66 have been replaced as part of the current widening projects adding general purpose lanes to I-25.

The following 12 interchanges and 5 railroad structures, shown on **Table 1-3**, would need to be replaced for the year 2035 design horizon due to deficiencies based on age or condition. An additional 39 structures serving pedestrians, waterways, and cross streets would also need to be replaced along the I-25 mainline.

Table 1-3 Aging and Obsolete Structures

Interchange Structures		Railroad Structures	
WCR 34	LCR 26	GWR – north of WCR 34 (MP 246)	
SH 56	Prospect Rd.	GWR – north of SH 56 (MP 252)	
SH 60	SH 14	UPRR – north of US 34 (MP 259)	
LCR 16	SH 1	BNSF – north of SH 68 (MP 267)	
SH 402	120th Avenue	BNSF – north of SH 14 (MP 270)	
US 34	136th Avenue		

Notes:

WCR...Weld County Road
LCRLarimer County Road
MPMilepost
SHState highway

GWR...Great Western Railroad
UPRR .Union Pacific Railroad
BNSF ..Burlington, Northern, and Santa Fe Railroad

According to CDOT’s Field Log of Structures (CDOT, 2005a), two structures along this stretch of I-25 have a minimum vertical clearance of less than 16.5 feet (the interstate highway standard). The structures are WCR 34 and WCR 38. Damage to these structures due to substandard vertical clearance could occur by the larger commercial vehicles using I-25.

1.5.3.4 PAVEMENT

CDOT data shows approximately 42 percent of the pavement on I-25 between SH 7 and SH 1 is rated as either “fair” (sufficient or adequate) or “poor” (less than adequate) and has a service life of less than 10 years remaining. By year 2035, it is anticipated that the pavement along I-25 north of SH 66 would need to be replaced due to deficient conditions.

1.5.3.5 DRAINAGE

Most of the existing drainage structures along I-25 were built during the 1960s. At that time, the adjacent areas were rural, and flood damage was limited to agricultural land. The sizes of many of these drainage structures were based on limited rainfall data for what was estimated to be a 25- or 50-year storm event. The 100-year storm is now used for drainage design in urbanized areas and for floodplains under the jurisdiction of the Federal Emergency Management Agency (FEMA). Many of the existing drainage structures constrict stormwater flows, cause flooding, and overtopping of the adjacent highways. In order to conform to newer criteria and control flooding, most drainage structures along I-25 should be replaced.

There are no facilities in place along I-25 to treat runoff from paved areas, except for the newly constructed facilities between SH 52 and SH 66. Prior to 2001, CDOT and many municipalities were not required to treat runoff from paved areas. CDOT now has a municipal separate storm

1 sewer system (MS4) permit from the Colorado Department of Public Health and Environment
2 (CDPHE). This permit requires CDOT to implement a program to reduce the discharge of
3 pollutants by installing permanent facilities.

4 **1.5.4 Highway and Transit Modal Alternatives and** 5 **Interrelationships**

6 Alternative modes of travel are very limited in northern Colorado, and between northern
7 Colorado and the Denver Metro Area. In 1999, when the Transportation Alternatives Feasibility
8 Study (TAFS) was being conducted, residents of northern Colorado were asked to complete a
9 transportation survey (Kimley-Horn and Associates, 1999). Results of this survey indicated a
10 strong desire by residents to see regional transit options provided in northern Colorado. As
11 evidenced through public input throughout this project, the results of the 1999 survey remain
12 valid.

13 In addition to a strong desire for transit options, there is a need for public transportation due to
14 the increasing cost of gas, the decreasing supply of energy, and the aging population, which
15 will likely result in more transit dependent individuals. In addition, the increasing unreliability of
16 auto travel points out a need for other transportation mode alternatives.

17 **1.5.4.3 RAIL SERVICE**

18 Participants in the TAFS survey were asked to rate potential transportation solutions such as
19 bus service, highway widening, and rail service. On a scale of one to five with five being the
20 best, "rail service on I-25" received a 3.95, the highest score of all the potential solutions on
21 the survey. In addition, over 50 percent of the written comments received were in support of
22 providing transit service or suggested ways to move away from single-occupant vehicle use.
23 An electronic survey, conducted as part of the same study, found that 61 percent of
24 respondents felt that the best transportation policy option for Coloradans was rail, while only
25 18 percent favored widening I-25.

26 In recent public opinion surveys conducted for NFRMPO (ETC Institute, 2002, 2005),
27 44 percent of respondents stated that they would like to see their tax dollars spent on providing
28 commuter rail service between the northern Colorado communities and Denver. This option
29 rated higher than any other improvement listed on the questionnaire.

30 **1.5.4.4 BUS SERVICE**

31 There is very little intra-regional (such as Loveland to Greeley) and no inter-regional
32 (Fort Collins to Denver) public transit service serving the I-25 corridor. Existing public-transit
33 service in northern Colorado is essentially limited to service within the individual communities.
34 Fort Collins, Greeley, and Loveland each operate fixed-route and demand responsive service
35 in their communities. FoxTrot is an intercity service connecting Longmont, Loveland, and
36 Fort Collins. The Weld County Mini-Bus program provides connections between Weld County
37 communities and Boulder, Fort Collins, Fort Morgan, and Loveland. The Town of Berthoud
38 operates a demand responsive service that operates in the Berthoud Fire District. This service
39 also connects to Longmont and Loveland. The Regional Transportation District (RTD) provides
40 bus service from Longmont to Boulder or Denver or from communities south of SH 66 to
41 Denver. The NFRMPO Household Survey and the Front Range Commuter Bus study both
42 indicate that there is a demand for transit service connecting the North Front Range
43 communities to each other and to the Denver Metro Area.

1 Private bus operators (such as Greyhound) provide limited service connecting northern
2 Colorado to the Denver Metro Area. However, these trips are not scheduled around a typical
3 commuter schedule.

4 **1.5.4.5 VANPOOLS**

5 The NFRMPO operates a vanpool program that provides trips between Greeley, Fort Collins,
6 and Loveland and to the Denver Metro Area. In September 2010, there were 82 van routes in
7 service. Over 70 vans travel between the northern Colorado communities and the Denver
8 Metro Area. Other vans travel within the northern region or from the Denver Metro Area to
9 northern Colorado. Each week, NFRMPO responds to about 50 calls from residents interested
10 in participating in the vanpool program and estimates that there is a demand for 150 vans.
11 Almost all of these calls come from people traveling to the Denver Metro Area. The level of
12 interest in this service indicates in part that there is an unmet demand for alternative modes of
13 inter-regional travel in the region.

14 **1.5.4.6 CARPOOLS**

15 The NFRMPO also operates an automated ride matching service on the NFRMPO web site.
16 In the first few months of 2005, interest in ride sharing increased by about 400 percent over
17 demand estimates made toward the end of 2004. Much of this was attributed to the increase
18 in gas prices that occurred during that same period.

19 A number of well-utilized carpool lots are located along I-25. A survey of these lots was
20 conducted for CDOT Region 4 and also for the *Front Range Commuter Bus Study*
21 (TransitPlus and FHU, 2003). Both studies showed that the 250 parking spaces located
22 between SH 60 and SH 392 were approximately 85 percent occupied. The parking lots
23 located along the south end of the corridor are not as well utilized, but demand for all of
24 these lots is expected to increase as population and employment in the area continues to
25 grow.

26

1.6 RELATIONSHIP TO THE TRANSPORTATION PLANNING PROCESS

A number of communities in the regional study area have developed transportation plans that recommend transportation improvements to accommodate the travel needs of their communities now and in the future. The three transportation planning regions (TPRs) in the regional study area coordinate the efforts of these local communities to create a comprehensive, fiscally-constrained, transportation plan for each region. The NFRMPO coordinates the planning efforts of the urban area including Fort Collins, Greeley, and Loveland. UFRRPC provides the same type of planning coordination efforts for rural portions of Larimer, Morgan, and Weld counties that are not part of NFRMPO. DRCOG coordinates efforts in the Denver Metro Area and north along the Front Range to just north of Mead. **Figure 1-4** illustrates the three TPRs in the regional study area. The 2035 Statewide Transportation Plan (CDOT, 2008) melds the Colorado Transportation Commission policy with the goals and recommendations from each of the state's TPRs. Each document identifies a vision for the area's transportation network and establishes goals and policies for implementation of the transportation vision.

Relevant regional and statewide transportation planning goals and policies are described briefly below.

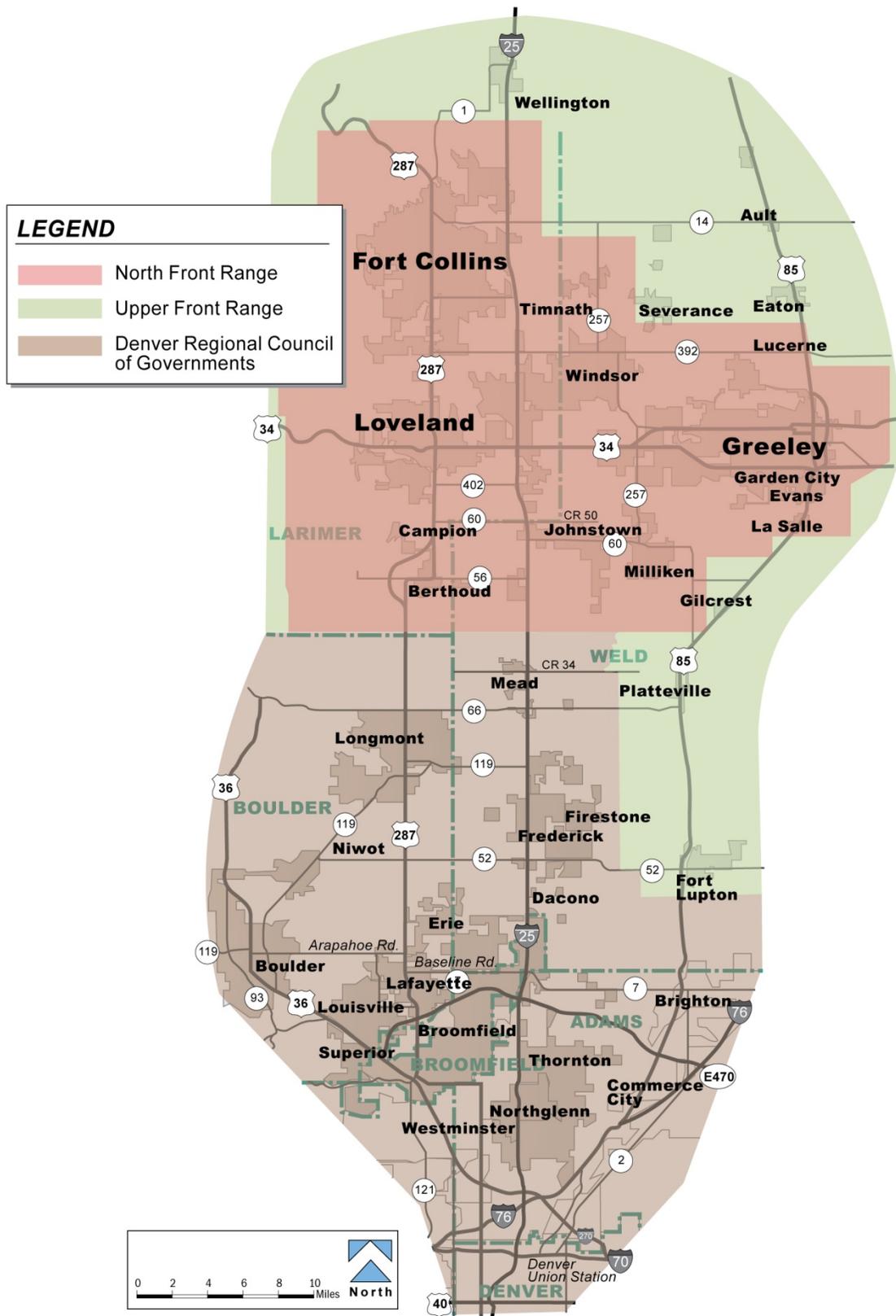
1.6.1 North Front Range

NFRMPO is in the process of updating the North Front Range (NFR) 2035 Regional Transportation Plan (RTP) with the updated plan anticipated to be adopted in September 2011 (NFRMPO, 2011). The NFR 2035 RTP's value statement reads: "Recognizing the unique character of the region, we will provide an environmentally, socially, and economically sensitive multi-modal transportation system for all users that protects and enhances the region's quality of life." Other goals identified in the RTP that are relevant to the North I-25 EIS are: provide a safe, balanced multi-modal system; foster regional coordination; minimize congestion; minimize environmental impacts; and provide a positive economic impact. The NFR 2035 RTP identifies the I-25 corridor as one of the top three priority corridors.

1.6.2 Upper Front Range

UFRRPC adopted the *Upper Front Range 2035 Regional Transportation Plan* in January 2008 (FHU, 2008a). The Upper Front Range RTP's stated goal is: "To provide a multi-modal transportation system that maximizes public input, fosters cooperation, and meets the transportation needs of all travelers in the Upper Front Range." The plan also states that UFRRPC would like to include I-25 in any future strategic funding programs. UFRRPC has adopted a number of policy directives which support passenger rail service and expansion and coordination of bus transit service in the Upper Front Range.

1 Figure 1-4 Transportation Planning Region Boundaries



1.6.3 Denver Area

DRCOG adopted the year 2035 Metro Vision Regional Transportation Plan (2035 MVRTP) update in January 2011. DRCOG's 2035 MVRTP includes plans for three regional transit lines in the regional study area. The three regional transit lines are:

1. The proposed North Metro rail line from downtown Denver to SH 7 east of I-25
2. The US 36 corridor that would include Bus Rapid Transit (BRT) along US 36
3. The Northwest Rail corridor that includes 38 miles of commuter rail between downtown Denver, Longmont, and Boulder.

The plan also includes widening I-25 between US 36 and Thornton Parkway with one additional general purpose lane in each direction. CDOT submitted an amendment to this plan to change the planned general purpose lanes from US 36 to Thornton Parkway to tolled express lanes (TELS) that would extend from US 36 to 120th Avenue. The amendment also requested the addition of one new TEL in each direction from SH 66 to CR 38.

1.6.4 Statewide Plan

The Colorado Transportation Commission adopted the year 2035 Statewide Transportation Plan in March 2008 and an update is currently out for public review. The report states that the mission of the Transportation Commission is to: "Provide the best multi-modal transportation system for Colorado that most effectively moves people, goods, and information." The mission statement was expanded to include the following: "Enhance the quality of life and the environment of the citizens of Colorado by creating an integrated transportation system that focuses on moving people and goods by offering convenient linkages among modal choices." The plan identifies a corridor vision for I-25 with the following goals:

- ▶ Increase travel reliability and improve mobility
- ▶ Reduce fatalities, injuries, and property-damage-only crash rates
- ▶ Preserve the existing transportation system
- ▶ Accommodate growth in freight transport
- ▶ Optimize the transportation system through intelligent transportation systems (ITS) and travel demand management measures

1.7 RECENT CORRIDOR STUDIES

A number of other corridor studies in the regional study area are being conducted simultaneously with the North I-25 EIS, or have been recently completed. Coordination with each of these efforts has been occurring throughout the project. A summary of each of the other corridor studies that occurred or is occurring in the regional study area is provided below. **Figure 1-5** shows the locations of other corridor studies within the regional study area.

1.7.1 US 287 Environmental Assessment

FHWA, in conjunction with CDOT, completed an EA for US 287 north of Fort Collins, beginning at SH 1 and extending two miles northwest. The project addressed mobility and safety issues along this stretch of highway. This EA and FONSI are completed and design is underway. Construction is planned for 2011.

1.7.2 US 287 Environmental Overview Study

CDOT completed an environmental overview study (EOS) for US 287 from 29th Street in Loveland to Harmony Road in Fort Collins. This study evaluated corridor route location alternatives. The No-Action Alternative was defined as the existing transportation system (including transportation improvements currently under construction) plus committed projects. As part of CDOT's comprehensive transportation planning process that integrates multi-modal transportation, land use, and environmental considerations, this EOS analyzed the need for transportation improvements and identified environmentally sensitive sites along the corridor in order to implement and coordinate a comprehensive transportation network.

CDOT initiated this study because of development pressure along the corridor. CDOT worked with local agencies, the public, stakeholders, and resource agencies to develop a highway footprint that addresses future improvements that may be financed through local agencies. This EOS is complete.

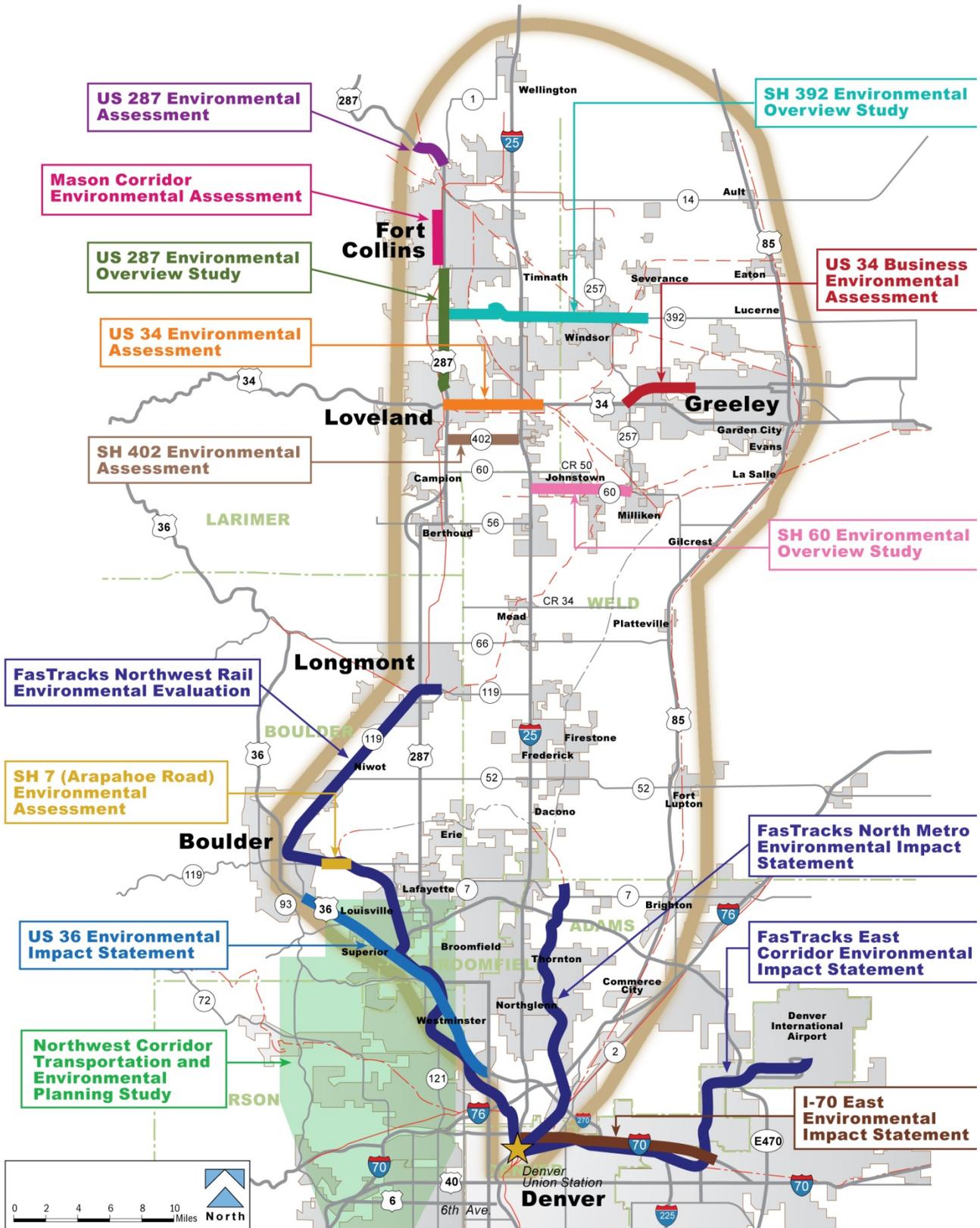
1.7.3 SH 392 Environmental Overview Study

As part of CDOT's comprehensive transportation planning process that integrates multi-modal transportation, land use, and environmental considerations, this EOS analyzed the need for transportation improvements along SH 392 from US 287 to east of Windsor in order to implement and coordinate a comprehensive transportation network.

CDOT initiated this study because of development pressure along the corridor. The purpose for studying SH 392 from US 287 to east of Windsor is to accommodate future growth and development in south Fort Collins and Windsor and ensure mobility given present and predicted future traffic conditions. CDOT is working with the local agencies, the public, stakeholders, and resource agencies to develop a highway footprint that addresses future improvements that may be financed through local agencies. This EOS is complete.

1 Figure 1-5 Recent Corridor Studies

2



1.7.4 US 34 Environmental Assessment

FHWA, in conjunction with CDOT and local agencies, initiated an EA for improvements to US 34 between Garfield Avenue and just east of Larimer CR 3. The EA addresses future mobility, safety, and access. The EA does not address interchange improvements at I-25 and US 34. Planned improvements include multi-modal transportation and widening the highway from four to six lanes. This EA and FONSI are complete.

1.7.5 US 34 Business Environmental Assessment

FHWA, in conjunction with CDOT and local agencies, initiated an EA for transportation improvements along US 34 Business Route between 71st Avenue and SH 257. The purpose of the project is to alleviate congestion, both current and future; improve safety; improve access; and connect this segment of the highway with four lanes that currently exist on the western and eastern boundary of the project. This EA and FONSI are complete and the construction has been completed.

1.7.6 SH 60 Environmental Overview Study

As part of CDOT's comprehensive transportation planning process that integrates multi-modal transportation, land use, and environmental considerations, this EOS analyzed the need for transportation improvements and identified environmentally sensitive sites along SH 60 between I-25 and SH 257 in order to implement and coordinate a comprehensive transportation network.

CDOT initiated this study because of development pressure along the corridor. The purpose and need for studying SH 60 from I-25 to SH 257 is to ensure mobility especially given recent annexations by Milliken and Johnstown and the amount and rate of ongoing and planned developments in those areas. CDOT will work with local agencies, the public, stakeholders, and resource agencies to develop a highway footprint that addresses future improvements that may be financed through local agencies. This EOS is complete.

1.7.7 SH 402 Environmental Assessment

FHWA, CDOT, and local agencies conducted an EA and subsequently approved a FONSI for improvements along SH 402 from US 287 to the I-25 interchange. The purpose of the project was to improve travel and safety on SH 402 within the study area. The difficulty experienced by drivers making a left turn to or from SH 402 contributes to this need. As traffic volumes increase, current mobility and safety issues will become worse if improvements are not made to the existing roadway. This EA and FONSI are complete.

1.7.8 SH 7 (Arapahoe Road) Environmental Assessment

The SH 7 EA evaluated transportation alternatives between Cherryvale Road and 75th Street. This is a major transportation corridor which serves the cities of Boulder, Erie, Lafayette, and Louisville, as well as Boulder County. This corridor has experienced tremendous growth over the last few years and motorists are encountering steadily increasing congestion. FHWA conducted the EA in cooperation with CDOT and the local agencies. This EA and FONSI are complete and design is underway. Construction of improvements at 75th Street is complete.

1.7.9 US 36 Environmental Impact Statement

The US 36 Mobility Partnership prepared an EIS to identify multi-modal transportation improvements between Denver and Boulder. Bus improvements associated with this EIS are in the FasTracks plan. The EIS study developed and evaluated highway and BRT alternatives developed in the MIS and considered all other reasonable alternatives, including the No-Action Alternative, to ensure maximum multi-modal capacity for the corridor. The study area was roughly 18 miles of US 36 between I-25 and the Table Mesa park-n-Ride in Boulder. The study area incorporated a number of communities in the northwest metropolitan Denver area, including the cities of Boulder, Broomfield, Denver, Lafayette, Louisville, Superior, and Westminster, as well as unincorporated Boulder County. The Draft EIS was released for public review in August 2007. The Final EIS was released in October 2009 and the Record of Decision (ROD) was signed in December 2009. Design is underway.

1.7.10 Northwest Corridor Transportation and Environmental Planning Study

CDOT is looking at long-range regional transportation needs in the northwest Denver Metro Area. By the year 2030, the Denver Metro Area, including the northwest region, will have an estimated population of approximately 3.2 million people. That is an increase of approximately 900,000 residents. Such growth demonstrates the need for the continuing study of future mobility in and through the region. CDOT's evaluation was documented in the Northwest Corridor Transportation and Environmental Planning Study and was released in July 2008.

1.7.11 I-70 East Environmental Impact Statement

The I-70 East EIS is evaluating highway improvements for the I-70 corridor between I-25 and Tower Road. The EIS will decide which transportation projects, if any, will be built to improve safety and mobility, and address congestion in the corridor. The Draft EIS was issued in November 2008. The Final EIS is in progress, scheduled to be complete late 2011.

1.7.12 FasTracks

FasTracks is RTD's comprehensive plan to build and operate 119 miles of new rail line, to expand and improve bus service, and to add 21,000 new park-n-Ride spaces throughout the Denver Metro Area. RTD currently estimates that FasTracks will cost \$ 6.5 billion to construct, to be funded by a combination of a region-wide sales tax, federal funds, and local and private contributions. The four cent per \$10 purchase sales tax went into effect on January 1, 2005. RTD's project implementation schedule for FasTracks is shown in **Table 1-4**. However, RTD currently projects a funding shortfall, which will result in some corridors being delayed until after 2035 unless additional funding sources can be put in place (RTD, "Completing the Vision", November 2010).

1 **Table 1-4 RTD FasTracks Project Schedule to Begin Operations**

Year	Corridor Facilities
2013	West Corridor Light Rail
2015	Union Station
2016	East Corridor Rail Gold Line Commuter Rail Central Corridor Light Rail Extension Northwest Rail (Phase 1)
2018 – 2042*	I-225 Corridor Rail North Metro Corridor Rail Northwest Rail Corridor (Phase 2) Southwest Corridor Light Rail Extension Southeast Corridor Light Rail Extension US 36 Corridor Bus Rapid Transit (Phase 2)

*The range of timeframes varies, depending on different funding scenarios, an increase in sales and use tax scenarios of 0.4 percent, 0.3 percent, 0.2 percent, 0.1 percent, or no additional funds. The longest timeframe (2042) represents no increase in funding.

2 Four of these projects are adjacent to the northern front range communities. These are
3 described in the following sections in more detail.

4 **1.7.13 Northwest Rail Environmental Evaluation**

5 This Environmental Evaluation (EE) was conducted by RTD to evaluate passenger rail
6 alignments from Longmont to Denver. These improvements are in the FasTracks plan.
7 Potential improvements include a 38.1-mile commuter rail line along the existing railroad right-
8 of-way between Denver Union Station in downtown Denver and Longmont (through Boulder).
9 Like the US 36 EIS, the study area incorporates a number of communities in the northwest
10 metropolitan Denver area, including the cities of Boulder, Broomfield, Denver, Lafayette,
11 Louisville, Superior, and Westminster, as well as unincorporated Boulder County. The Final EE
12 was released in May 2010.

13 **1.7.14 North Metro Environmental Impact Statement**

14 RTD is conducting an EIS of the 18-mile North Metro corridor that extends from Denver Union
15 Station in downtown Denver north to 160th Avenue (SH 7). The commuter rail line (which is in
16 the FasTracks plan) generally follows the UPRR right-of-way to the east of I-25. The North
17 Metro Corridor greatly expands transit access and service to the north metro area between
18 I-25 and I-76. This area is one of the fastest growing areas in the Denver Metro Area and is
19 expected to more than double in population and employment by 2025. The Draft EIS was
20 released in 2009 and the project team is developing the Final EIS, which is scheduled for
21 release in early 2011.

22 **1.7.15 East Corridor Environmental Impact Statement**

23 The East Corridor EIS evaluated high-capacity, fixed-guideway transit alternatives between
24 downtown Denver and Denver International Airport (DIA). These improvements are in the
25 FasTracks plan. The EIS identified the benefits and impacts associated with the various
26 alternatives being evaluated in the corridor. The East Corridor EIS included an extensive

1 community involvement process. FTA conducted the study in cooperation with RTD, and the
2 City and County of Denver. Federal Transit Administration (FTA) issued the ROD in November
3 2009. This project is now in final design and construction.

4 **1.7.16 Denver Union Station Environmental Impact Statement**

5 A Final EIS has been completed to evaluate the transportation recommendations of Phase 1 of
6 the approved Master Plan for Denver Union Station. The Station currently offers RTD light rail
7 service, bus service, and passenger service by AMTRAK. Through implementation of the
8 Master Plan, Denver Union Station will be transformed into a transportation hub serving the
9 needs of residents, tourists, and commuters. FTA issued a ROD in March 2010 and
10 construction is underway.

11 **1.7.17 Colorado Rail Relocation Implementation Study**

12 CDOT and the two Class One Railroads operating in Colorado, the BNSF and the UPRR, have
13 been holding discussions regarding the possible relocation of rail infrastructure east, away
14 from the Front Range. These preliminary efforts between CDOT and the railroads is known as
15 the "Colorado Railroad Partnership Project" or alternatively as "Colorado's Safety and Mobility
16 Partnership Project," and provide the backdrop for the current study. The purpose of this study
17 is to identify public benefits, drawbacks and costs associated with a possible partnership
18 project between CDOT, BNSF, UPRR, and other public entities. This will allow the parties to
19 better assess the type and extent of their potential financial participation. The study's ultimate
20 goal is to investigate whether there are likely to be sufficient benefits for the citizens of
21 Colorado to warrant consideration of the investment of public dollars in the proposed railroad
22 project. The study has been finalized and was published in 2009.

23 **1.7.18 Colorado Tolling Enterprise/High Performance 24 Transportation Enterprise**

25 The Colorado Tolling Enterprise (CTE) was created by CDOT to finance, build, operate, and
26 maintain toll highways. CTE was made possible by legislation that enables CDOT and the
27 state Transportation Commission to issue bonds for new or additional highway capacity toll
28 projects throughout Colorado. A recent study by CTE evaluated the feasibility of creating a
29 tolling facility along I-25. Two scenarios were evaluated and found to be potentially feasible.
30 The first includes three general purpose lanes plus two express toll lanes in each direction
31 from 120th Street to SH 66. From 120th to US 36, I-25 would have three general purpose
32 lanes in each direction and two reversible express toll lanes. The second scenario includes
33 three general purpose lanes in each direction and a two-lane reversible express toll lane
34 facility between SH 7 and US 36. These tolling alternatives were considered in this North
35 I-25 EIS. In 2009, the CTE was replaced by the Colorado High Performance Transportation
36 Enterprise (HPTE).

37 **1.7.19 High-Speed Rail Feasibility Study - Phase III - Colorado 38 Springs to Pueblo and Denver to Fort Collins**

39 The Rocky Mountain Rail Authority (RMRA) is a multi-jurisdictional government body
40 comprised of more than 50 Colorado cities, towns, counties, and transit authorities and has
41 determined that, based on Federal Railroad Administration (FRA) criteria, high-speed rail is
42 feasible in Colorado's I-70 and I-25 corridors. The study included the evaluation of the I-25

1 corridor from Cheyenne, WY to Trinidad, CO, passing through the metropolitan areas of
2 Fort Collins, Denver, Colorado Springs and Pueblo along the way. I-25 connects Colorado's
3 growing metropolitan areas along the Front Range. In the March 2010 High-Speed Rail
4 Feasibility Study, a preliminary set of implementation phases was developed with this portion
5 identified as Phase 3. It proposed eight years of project development and environmental
6 clearance and six years of design and construction.

7 For this North I-25 EIS, high-speed rail was considered but was eliminated because to achieve
8 the desirable speeds, only one or two stops would be provided, which did not meet the
9 Purpose and Need (See **Chapter 2 Alternatives** and the *Alternatives Development and*
10 *Screening Report*). However, the build packages considered in this Final EIS would not
11 preclude possible future implementation of high-speed rail as a separate action.

12 **1.7.20 Mason Corridor Environmental Assessment**

13 This EA and Finding of No Significant Impact (FONSI) was conducted by the City of
14 Fort Collins in conjunction with FTA to evaluate bus rapid transit along the Mason Corridor
15 from Cherry Street to Harmony Road in Fort Collins, Colorado. The multi-modal Mason
16 Corridor includes a recently constructed bicycle and pedestrian trail, as well as the planned
17 bus rapid transit system in a fixed guideway for the majority of the corridor. The corridor lies
18 partially between/within Burlington Northern and Santa Fe Railway property, a few hundred
19 feet west of College Avenue (US 287). The FONSI was completed in the fall of 2008, and the
20 Mason Corridor project received funding in the FTA New Starts Program. The project is
21 currently in the final design stage of implementation and construction is set to begin in
22 late 2011 to early 2012 with an opening day in late 2012.

23 **1.8 RELATIONSHIP TO NEPA**

24 This EIS has been prepared pursuant to CEQ regulations implementing NEPA, FHWA, and
25 FTA environmental impact and related procedures (23 Code of Federal Regulations
26 [CFR] 771), FHWA Technical Advisory T6640.8A, and other applicable laws. It details the
27 process through which transportation alternatives have been developed; discloses foreseeable
28 social, economic, and environmental impacts resulting from the project; provides findings for
29 public review; and outlines potential mitigation options. The lead federal agencies, FHWA and
30 FTA, have signature authority on the ROD. CDOT is preparing this EIS under the guidance of
31 the lead agencies.

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